

FIG. 1A.

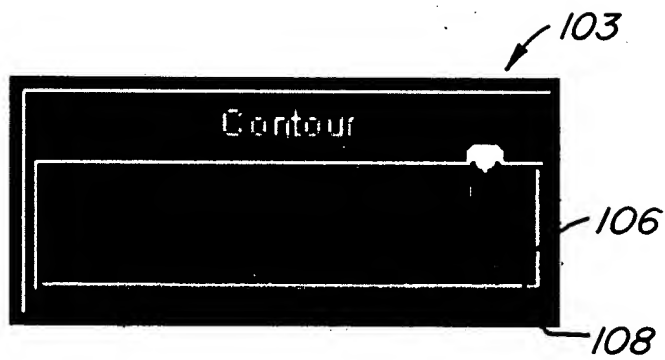
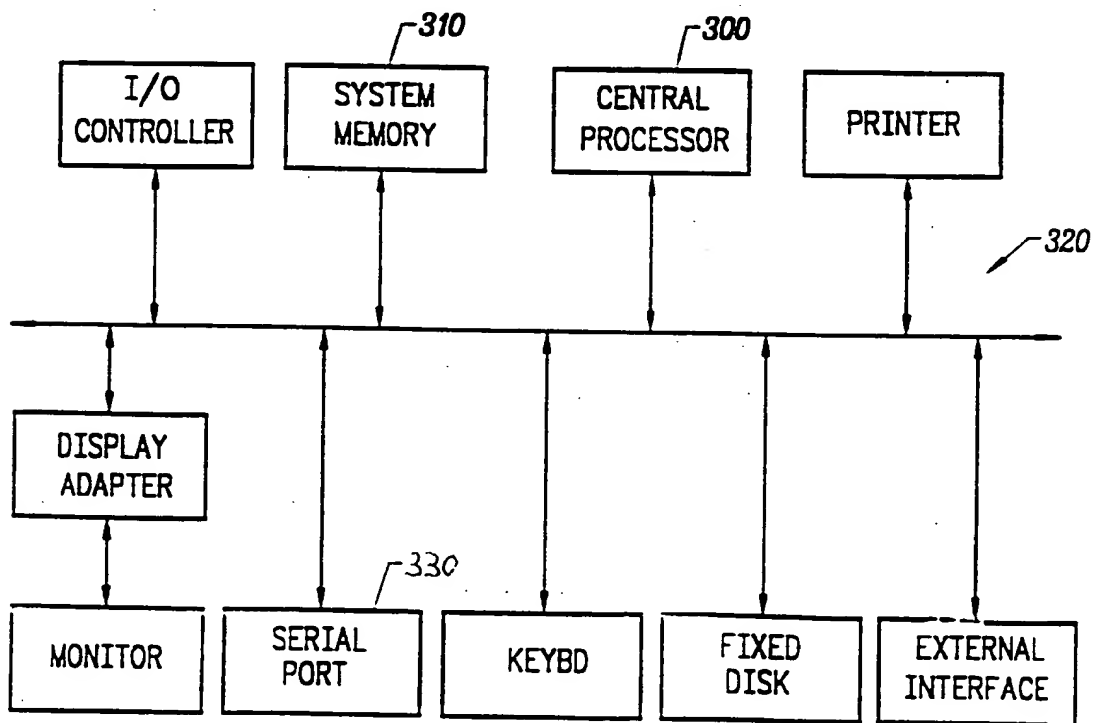
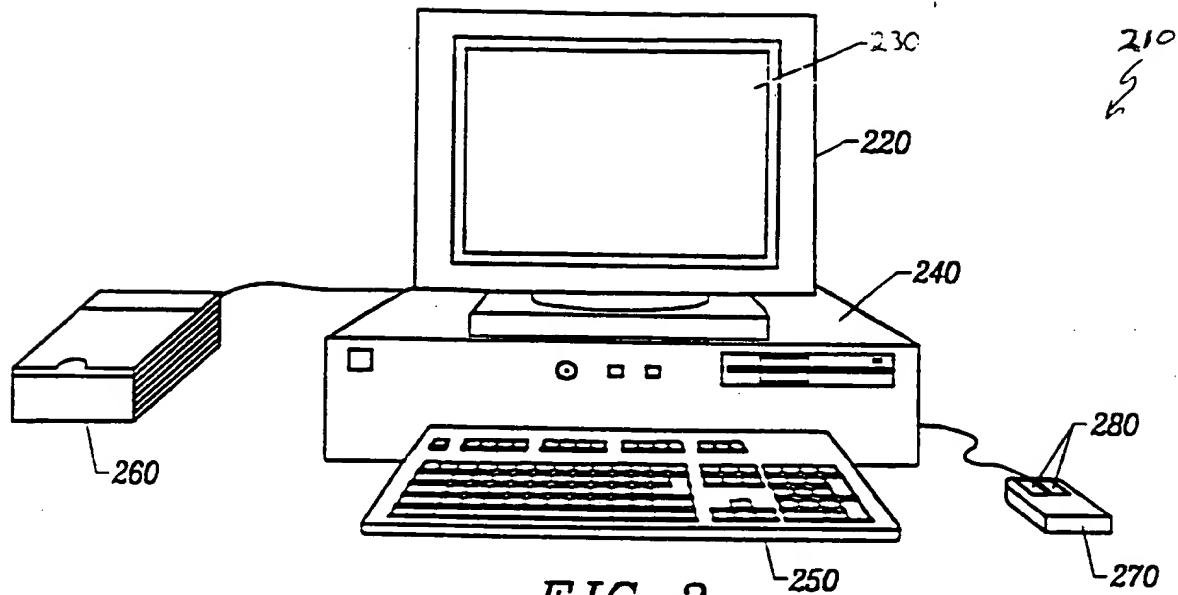
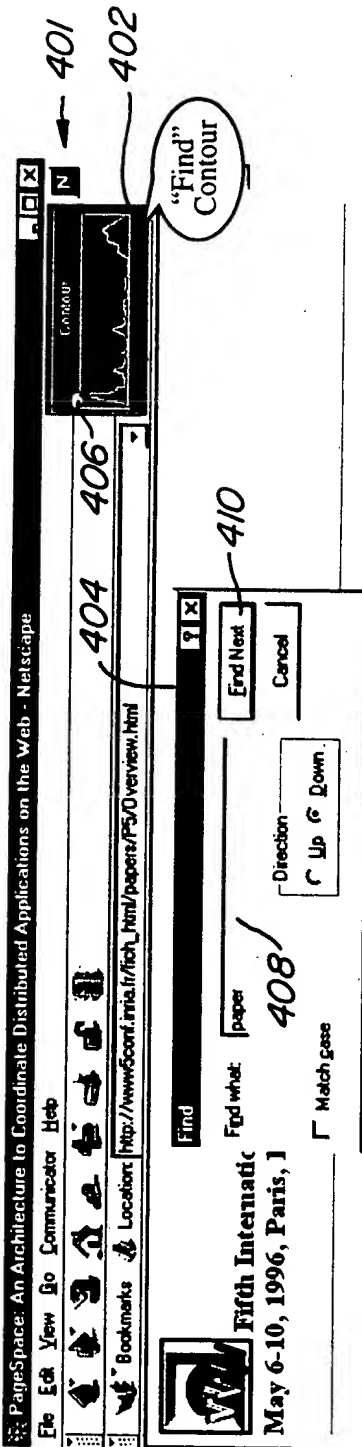


FIG. 1B.





PageSpace: An Architecture to Coordinate Distributed Applications on the Web

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Abstract

Most Applications on the Web require active processing and coordination of services and components. Today, activity within the Web is tied to server machines and there is no integrated mechanism that allows it to coordinate activity located at clients, such as applets. In order to allow for really distributed application in the Web, such coordination platforms have to be built.

The PageSpace is a platform to support open distributed application on top of the Web. It utilizes Java to execute distributed agents that coordinate their exchange of services by Linda-like coordination technology. The PageSpace

FIG. 4.

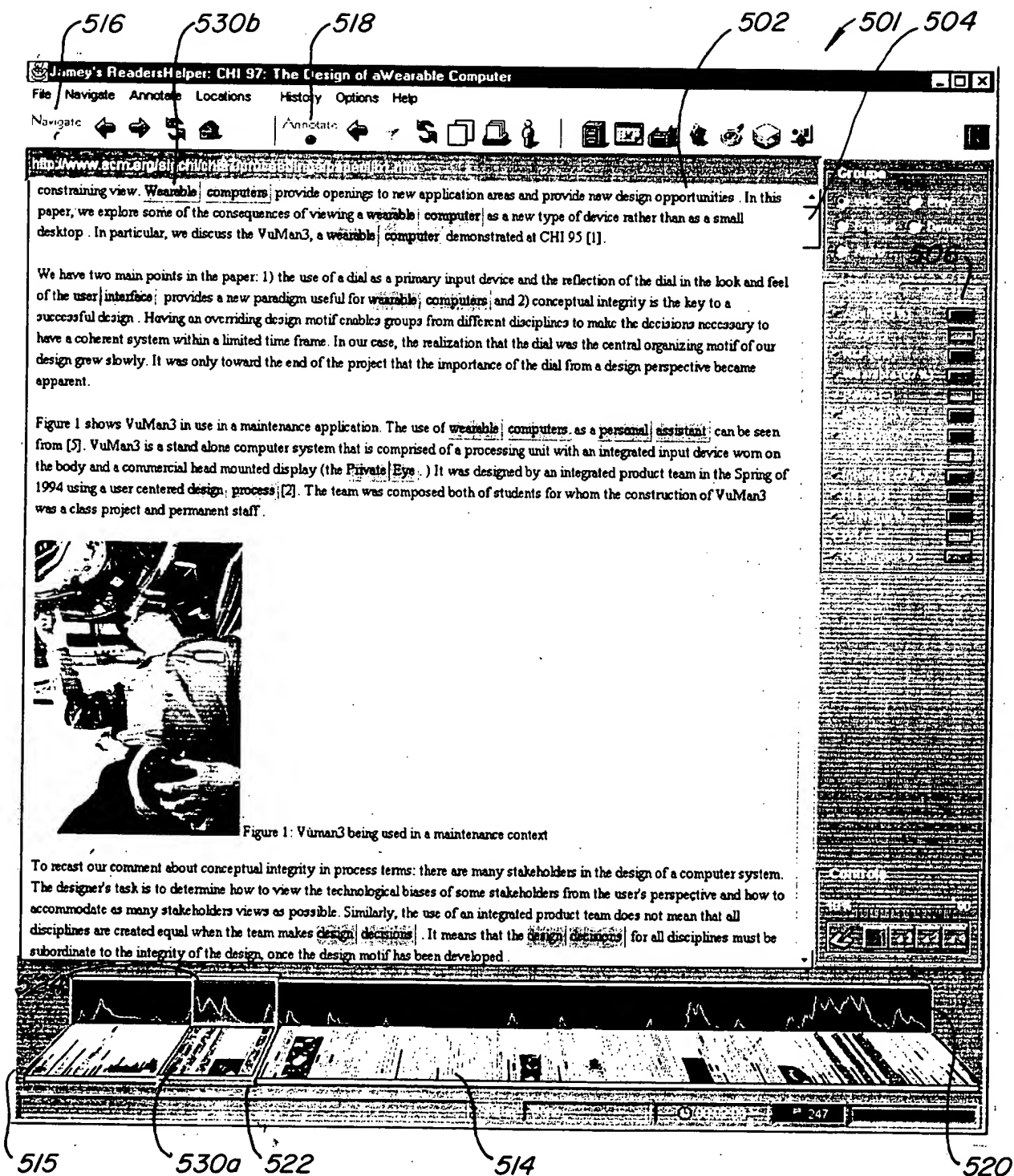


FIG. 5.

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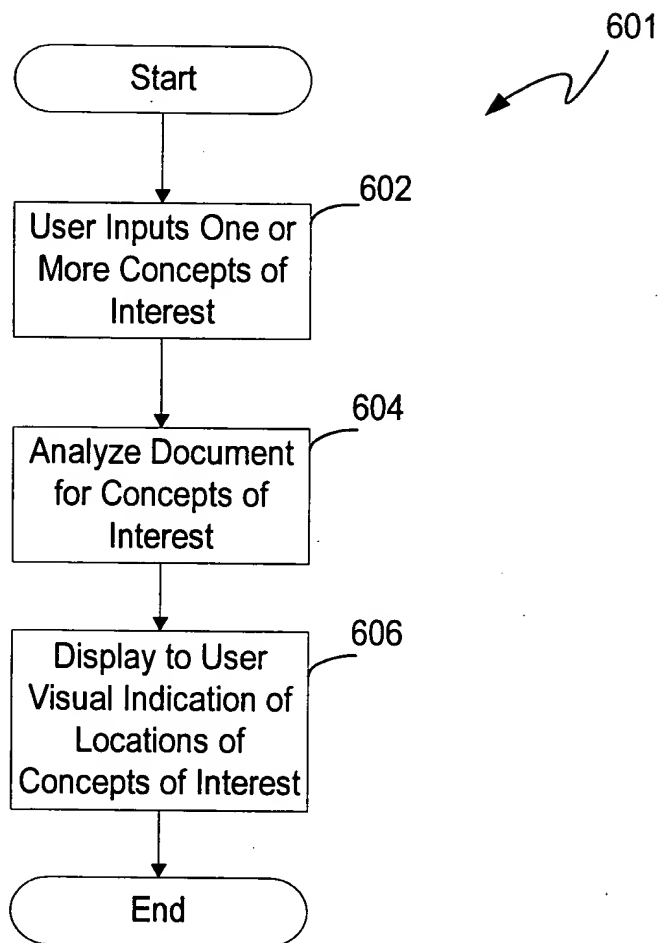


Fig. 6A

7/11

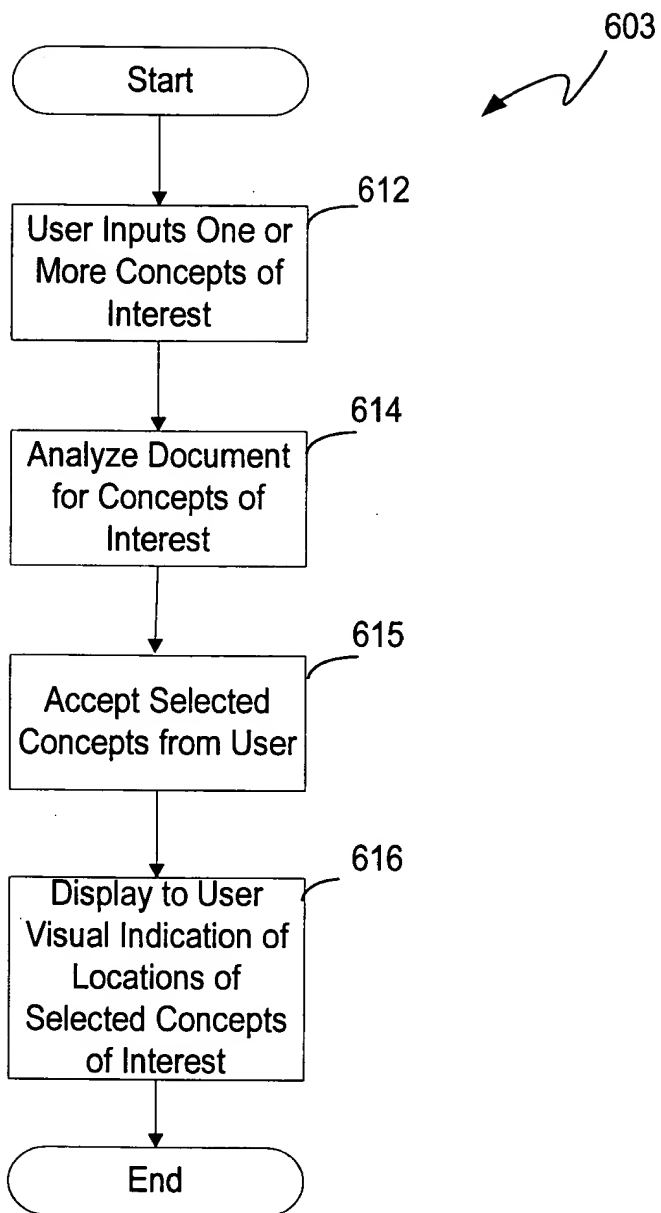


Fig. 6B

James's Reader/Helper: CHH 97: The Design of a Wearable Computer

File Navigate Annotate Locations History Options Help

Navigation icons

Annotations icons

Locations icons

History icons

Options icons

Help icons

http://www.arm.org/sigchi97/proceedings/paper/jb1.htm

application is suitable. The suitability of the dial for hyper-text application means that the application domain includes the World Wide Web, certainly a broad domain.

User Interface Paradigm :

The use of the dial as the central focus of both the external design and the design of the user interface is a new paradigm in user interfaces. Although logically, there could have been many different user interfaces for performing the LTI checklist, use of the dial as the central theme of the user interface and as the input device gave the device a coherency that it would not have had otherwise. Other input devices would also be possible with the user interface used (such as tab and "shift tab") but would also not have achieved the coherence of the total design.

Development Process:

Our design process included both periods of introspection and user feedback. We had two interactions with the user where we got feedback about our ideas that helped evolve the design. We also consistently tried to make the users the owners of the final design. On the other hand, the resulting design was not due to the users but was due to the originality of the designers. We entered into the process pre-disposed to use wearable computers as a solution and with negative feelings toward the standard input devices.

We were also interested in generality and in furthering our agenda of wearable computers. Thus, we not only focussed on the LTI inspection process but also put some thought into the other types of applications for which the device we were constructing could be used.

The use of an integrated product team was central to the results. We had negotiations between the industrial designers and the electronics people that were intensive and emotional. We reflected the industrial design concept of a dial into the user interface. The team was very broad comprising many different engineering disciplines including software as well as industrial and graphic designers. A single concept has to drive the results, however, and that concept then becomes the master of the disciplines. So the electronics team were able to figure out how to construct and populate and different shape board. The user interface team was able to figure out how to reflect the dial in the user interface and so on. Conceptual integrity usually results from a very small number of designers. Thus, there was a large integrated product team but the design concept that ended up permeating the design came from the industrial designers.

Conceptual integrity:

The one primary piece of advice that results from this experience is that the key to a successful design process is to have a

Groups

Work

Project

Play

Demo

Concepts

Agents (3%)

Java (-)

RUP (0%)

Measurable (27%)

Bayesian (-)

Exp Sys (0%)

Speech (0%)

HO (-)

Interface (77%)

RA (0%)

Virtual (0%)

DA (-)

Design (92%)

Controls

40%

00

Page Pointer

714

James's Readertool: CHI 97: The Design of a Wearable Computer

File Navigate Animate Locations History Options Help

Navigate

Animate

Locations

History

Options

Help

http://www.acm.org/sigchi/chi97/proceedings/papers/p101.htm

constraining view. Wearable computers provide openings to new application areas and provide new design opportunities. In this paper, we explore some of the consequences of viewing a wearable computer as a new type of device rather than as a small desktop. In particular, we discuss the VuMan3, a wearable computer demonstrated at CHI 95 [1].

We have two main points in the paper: 1) the use of a dial as a primary input device and the reflection of the dial in the of the user interface provides a new paradigm useful for wearable computers and 2) conceptual integrity is the key to a successful design. Having an overriding design motif enables groups from different disciplines to make the decisions have a coherent system within a limited time frame. In our case, the realization that the dial was the central organizing motif design grew slowly. It was only toward the end of the project that the importance of the dial from a design perspective became apparent.

Figure 1 shows VuMan3 in use in a maintenance application. The use of wearable computers as a personal assistant can be seen from [2]. VuMan3 is a stand alone computer system that is comprised of a processing unit with an integrated input device worn on the body and a commercial head mounted display (the Private Eye). It was designed by an integrated product team in the Spring of 1994 using a user centered design process [3]. The team was composed both of students for whom the construction of VuMan3 was a class project and permanent staff.

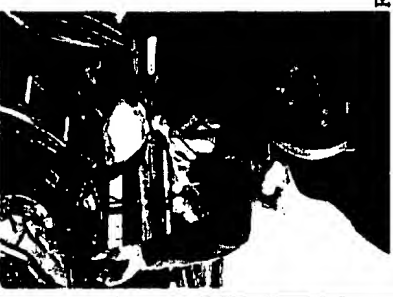


Figure 1: VuMan3 being used in a maintenance context

To recast our comment about conceptual integrity in process terms: there are many stakeholders in the design of a computer system. The designer's task is to determine how to view the technological biases of some stakeholders from the user's perspective and how to accommodate as many stakeholders views as possible. Similarly, the use of an integrated product team does not mean that all disciplines are created equal when the team makes design decisions. It means that the design decisions for all disciplines must be subordinate to the integrity of the design, once the design motif has been developed.

Groups

Work

Play

Project

Demo

Review

Concepts

Agents (3%)

Jawa (1%)

NLP (0%)

Games (1%)

EyeSys (0%)

Speech (0%)

RO (1%)

Interact (77%)

RH (0%)

Visual (10%)

GA (1%)

Design (88%)

Controls

10%

00

100

706a

712

FIG. 7C.

701

706a

706b

712

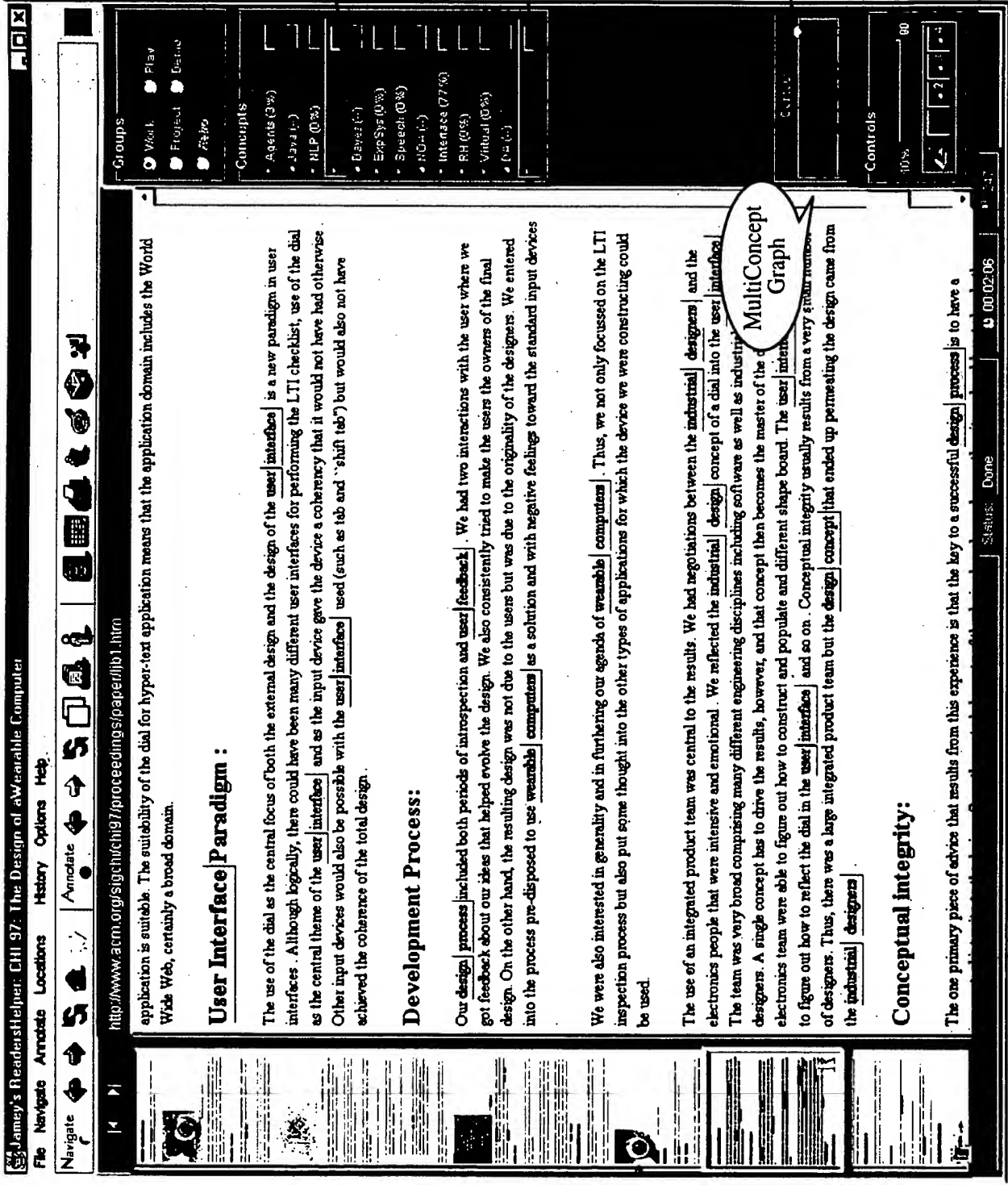


FIG. 7D.